

**Proposed Amendment between California Energy Commission
and
State Water Project Contractors Authority**

Title: Analysis and Optimization of Water and Energy Balances for Storage and Conveyance
Amount: \$0.00
Term: Not applicable (Termination)
Contact: Richard Sapudar
Committee Meeting: 2/22/2011

Funding

Not applicable.

Recommendation

Approve the termination of this agreement with State Water Project Contractors Authority. Staff recommends placing this item on the consent agenda of the Commission Business Meeting.

Issue

This agreement was developed over the course of several years beginning in 2006 for the SWPCA to work in cooperation with the Department of Water Resources (DWR) to analyze the energy intensity and efficiency of conveying water, and the power generation capacity of the of the State Water project (SWP) East Branch. It was intended to identify operational changes and capital improvements that would decrease the energy used to convey water, increase the power generation capacity, and incorporate renewable energy generation where possible into this reach of the SWP. It was to be conducted in advance of, and in support of a much larger planned retrofit of the East Branch by DWR. For this project the SWPCA agreed to select and manage a subcontractor at their expense and committed to \$100K in match funds for this purpose, resulting in the \$400K of PIER funds being used solely for the technical work of the agreement to be performed by the SWPCA subcontractor. As originally developed, the SWPCA would use their own public agency competitive solicitation process consistent with the CEC/PIER subcontractor flow down requirements to select the SWPCA subcontractor to accomplish the work required by the agreement.

During the agreement development process the subcontractor selection by competitive solicitation was raised as an issue, and after much discussion the project was eventually allowed to proceed with a requirement incorporated into the agreement that the CEC/PIER competitive solicitation process be used in place of the SWPCA's competitive solicitation process to select the SWPCA subcontractor. While a good faith effort was made by the both SWPCA and PIER staff to develop the specifications for the CEC's subcontractor competitive solicitation, it became evident to both parties staff that the administrative complexity and time required by the CEC's competitive solicitation process was not consistent with the need for the project's results to be available for the planning phase of DWR's larger East Branch retrofit project.

SWPCA requested the project be ended early based on these considerations, and PIER staff agreed that the cost-benefit of this project was no longer favorable, as discussed in the excerpt from the SWPCA termination request letter below:

"The Department of Water Resources has made significant progress in the last 18 months in developing energy efficiency, renewable energy development and carbon management policies to guide SWP operations and facility planning. The goal of our joint project was to use the analytical tools under the agreement to help inform SWPCA input to DWR in development of those policies. Since the development of those tools has been delayed, SWPCA no longer considers the agreement to have significant value and therefore is reluctant to extend the agreement term at this time. The SWPCA Board of Directors has authorized the General Manager to execute an amendment to terminate the agreement." - SWPCA 10/18/10

At this point no PIER funds have been expended. Staff is requesting an amicable and no-fault end to this agreement.

Background

Immediately following the 2005 IEPR, PIER IAW program staff commissioned a study to identify RD&D opportunities in the area of water-energy nexus. Staff developed a selection criteria based on the policy directives from the IEPR and other priorities set by the energy related public policy goals, such as the Energy Action Plan. During the IEPR process several projects were suggested by stakeholders. These stakeholders were contacted to get refinements to their suggestions, and the suggested projects were subjected to the PIER project selection criteria; this East Branch project was one of these projects.

The transportation of water from northern to southern California is an energy intensive operation. Storage and conveyance is one of the more energy intensive components of the Water Use Cycle, with the East Branch of the State Water Project being one of the most energy intensive water conveyance systems in the state; estimated energy intensity is nearly 10,000 kWh/MG, and is second only to ocean water desalination (about 13,500 kWh/MG) in energy intensity in California (2005 IEPR).

This project was designed to research and develop screening criteria and methodology, and conduct a case study to demonstrate how improved operational efficiency (procedures) and new investments (capital improvements) can optimize the energy efficiency of an integrated water delivery and power generation system. These analytical products would be used to evaluate investment decisions by typical water conveyance and power generation entities in California and elsewhere. The SWP East Branch was to be the case study to research, develop and demonstrate methods to co-optimize the efficiencies of water conveyance and power generation systems, while evaluating opportunities for integrating renewable, surface/groundwater storage and peak load reduction with operational and physical improvements to the East Branch to decrease the water conveyance energy intensity, increase power generation and shift loads off peak.

Proposed Work

Not applicable.

Justification and Goals

Not applicable.